WE CLAIM:

1. A communication system for providing voice and data communication between a public network and a plurality of user equipment terminals (UEs), the communication system comprising:

a community wireless local area network (WLAN) comprising a centralized base transceiver station (CBTS) coupled to the public network; and

a plurality of remote transceiver stations (RTSs) each coupled to a number of the plurality of UEs, and, via a radio link, to the CBTS,

whereby voice and data communication is provided between the public network and the plurality of UEs.

2. A communication system according to claim 1, wherein the public network comprises a public switched telephone network and the Internet, and wherein the CBTS is coupled to the public network via a trunk.

3. A communication system according to claim 1, wherein the CBTS and each RTS comprises a Global Systems for Mobile communication/General Packet Radio Service (GSM/GPRS) transceiver to provide data communication between the public network and the plurality of UEs.

4. A communication system according to claim 3, wherein the CBTS and each RTS further comprises a WLAN transceiver to provide voice communication between the public network and the plurality of UEs.

5. A communication system according to claim 4, wherein the WLAN transceiver is compatible with an open standard protocol selected from a group consisting of: HIgh Performance Local Area Network (HiperLAN/1); HIgh Performance Local Area Network (HiperLAN/2); and Institute of Electrical and Electronics Engineers 802.11 (IEEE 802.11).

6. A communication system according to claim 5, wherein the CBTS and each of the plurality of RTSs includes a frequency converter, and wherein the CBTS and each of the plurality of RTSs are adapted to communicate using GSM technology at a frequency above a standard GSM frequency band of 900 Mhz.

7. A communication system according to claim 6, wherein the CBTS and each of the plurality of RTSs are adapted to communicate using GSM technology at a frequency band within (ETSI) specification.

8. A communication system according to claim 7, wherein the CBTS and each of the plurality of RTSs are adapted to communicate using GSM technology at a frequency band of at least about 3.5 Ghz.

9. A communication system according to claim 1, wherein the public network comprises a public switched telephone network and the Internet, and wherein the CBTS is coupled to the public network via a public wireless network.

10. A communication system according to claim 1, wherein the public network comprises a public switched telephone network and the Internet, and wherein the CBTS is coupled to the public network via a satellite.

11. A transceiver station for use in a communication system, the transceiver station comprising:

an antenna;

a Global Systems for Mobile communication (GSM) transceiver; and

a frequency converter coupled between the GSM transceiver to enable communication using GSM technology at a frequency above conventional GSM frequency bands.

12. A transceiver station according to claim 11, adapted to communicate using GSM technology at a frequency band within (ETSI) specification.

13. A transceiver station according to claim 12, adapted to communicate using GSM technology at a frequency band of at least about 3.5 Ghz.

14. A transceiver station according to claim 11, wherein the GSM transceiver is a GSM/General Packet Radio Service (GSM/GPRS) transceiver, and wherein the transceiver station is adapted to communicate data.

15. In a communication system including a community wireless local area network (WLAN) comprising a centralized base transceiver station (CBTS) coupled to a public network, and a plurality of remote transceiver stations (RTSs) each coupled to a number of a plurality of User Equipment terminals (UEs), and, via a radio link, to the CBTS, a method of providing voice and data communication between the plurality of UEs and the public network, the method comprising steps of:

receiving call information in the community WLAN;

providing subscriber identification and security information for the UE to the community WLAN; and

coupling the UE to the public network over the community WLAN.

16. A method according to claim 15, wherein the public network comprises a public switched telephone network and the Internet, and wherein the step of coupling the UE to the public network comprises the step of coupling the CBTS to the public network via a trunk.

17. A method according to claim 15, wherein the CBTS and each RTS comprises a Global Systems for Mobile communication/General Packet Radio Service (GSM/GPRS) transceiver, and wherein the step of coupling the UE to the public network comprises the step of coupling the CBTS to the RTS using a GSM standard to provide data communication between the public network and the plurality of UEs.

18. A method according to claim 17, wherein the CBTS and each RTS further comprises a WLAN transceiver, and wherein the step of coupling the UE to the public network comprises the step of coupling the CBTS to the RTS using a WLAN standard to provide voice communication between the public network and the plurality of UEs.

19. A method according to claim 18, wherein the WLAN standard is an open standard protocol selected from a group consisting of: HIgh Performance Local Area Network (HiperLAN/1); HIgh Performance Local Area Network (HiperLAN/2); and Institute of Electrical and Electronics Engineers 802.11 (IEEE 802.11).

20. A method according to claim 19, wherein the CBTS and each of the plurality of RTSs includes a frequency converter, and wherein the step of coupling the UE to the public network comprises the step of up-converting a frequency of a signal generated in at least one of the GSM/GPRS and the WLAN transceivers to couple the CBTS to the RTS via a radio signal at a frequency above a standard GSM frequency band of 900 Mhz.

21. A method according to claim 20 wherein the step of up-converting a frequency of a signal generated in at least one of the GSM/GPRS and the WLAN transceivers comprises the step of up-converting the frequency of the signal to a frequency band within (ETSI) specification.

22. A method according to claim 21, wherein the step of up-converting a frequency of a signal generated in at least one of the GSM/GPRS and the WLAN transceivers comprises the step of up-converting the frequency of the signal to a frequency band of at least about 3.5 Ghz.

23. A method according to claim 15, wherein the public network comprises a public switched telephone network and the Internet, and wherein the step of coupling

the UE to the public network comprises the step of coupling the CBTS to the public network via a public wireless network.

24. A method according to claim 15, wherein the public network comprises a public switched telephone network and the Internet, and wherein the step of coupling the UE to the public network comprises the step of coupling the CBTS to the public network via a satellite.

25. A communication system comprising:

a public network including:

a Global System for Mobile communications (GSM) network coupled to a Public Switched Telephone Network (PSTN); and

a third-generation mobile communications (3G) network coupled to the GSM network and to the Internet;

a private network including a private cellular network; and

at least one Institute of Electrical and Electronics Engineers 802.11 (802.11) network coupled to the public network and the private network, the 802.11 network configured to facilitate communication between a plurality of User Equipment terminals (UEs) and terminals coupled to the public network and the private network.

26. A communication system according to claim 25, wherein the communication between the UEs and the public cellular network facilitated by the 802.11 network includes voice communication.

27. A communication system according to claim 25, wherein the UEs associated with the 802.11 network comprise a computer program to enable the UEs to control supplementary services provided by the public network and the private network.

28. A communication system according to claim 25, wherein the UEs include low-power unregulated transceivers.

29. A communication system according to claim 25, wherein the terminals coupled to the public network and the private network include telephones, GSM mobile stations, and 3G UEs.

30. A communication system according to claim 25, wherein the private network further comprises a private branch exchange (PBX), and wherein the terminals coupled to the private network include PBX telephones.

31. A communication system according to claim 25, further comprising a Remote Authentication Dial In User Service (RADIUS) server to authenticate UEs

accessing the communication system through the 802.11 network and to authorize access to the communication system.

32. A communication system according to claim 31, further comprising:

a plurality of 802.11 networks;

a home location registry (HLR) and visitor location registry (VLR) coupled to the RADIUS server; and

wherein the RADIUS server is adapted to provide roaming capabilities for the UEs among the plurality of 802.11 networks.

33. A communication system according to claim 25, wherein the private cellular network includes a mobile switching center (MSC), and wherein the 802.11 network is coupled to the public network through the MSC.

34. A communication system according to claim 33, wherein the 3G-network includes a Radio Network Controller (RNC) and wherein the 802.11 network is coupled to the RNC via an Iubis802.11 interface.

35. A communication system according to claim 33, wherein the 3G-network includes a node B and wherein the 802.11 network is coupled to the node B via an NodeB802.11 interface.

36. A communication system according to claim 33, wherein the 3G-network includes a third-generation Gateway General Packet Radio Service (GPRS) Support Node (3G-GGSN), and wherein the 802.11 network is coupled to the 3G-GGSN via an IuPS802.11 interface, the Internet and a Gi interface.